

FIG.1

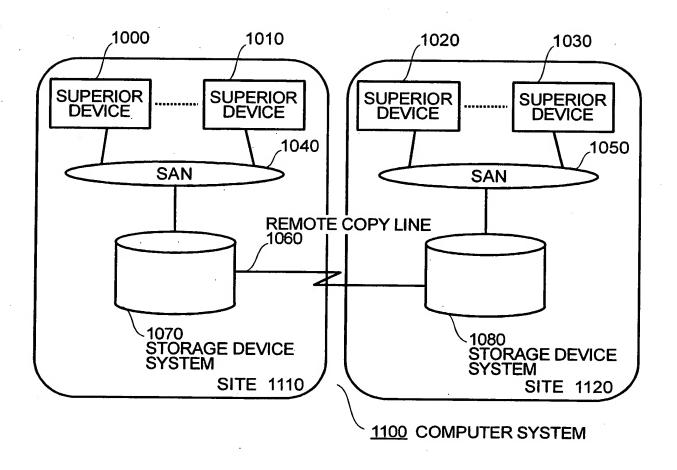


FIG.2

47

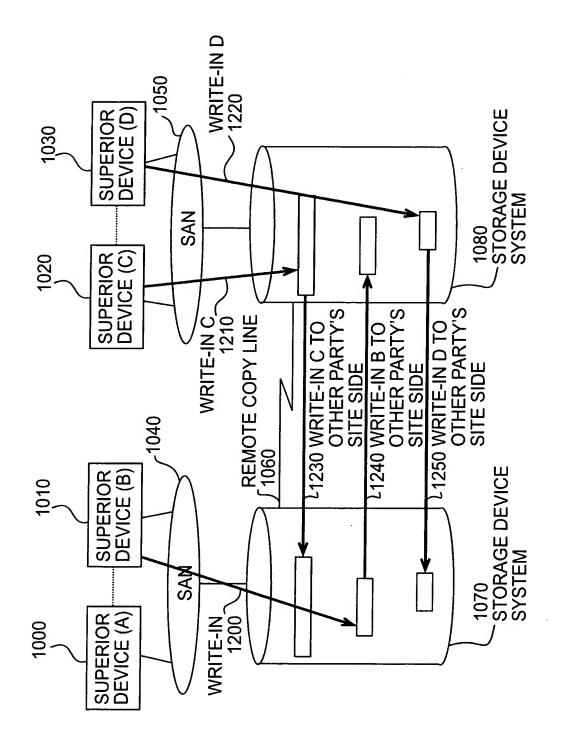
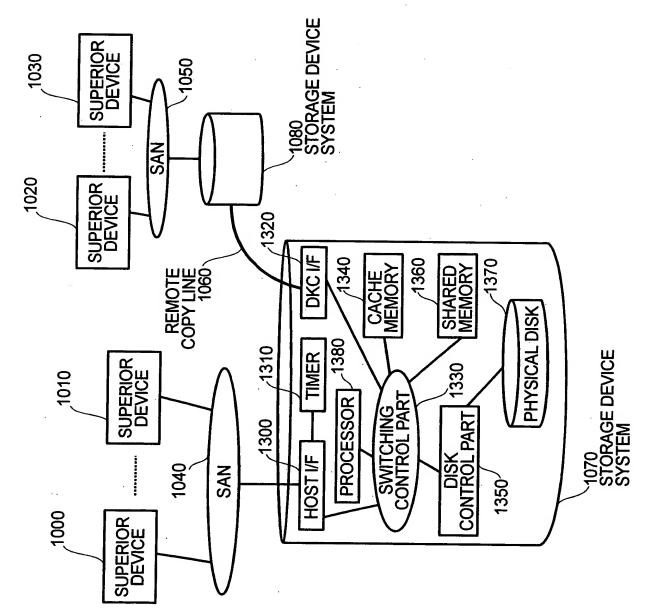


FIG.3



1080 STORAGE DEVICE SYSTEM DATA CONSISTENCY HOLDING CONTROL PART **DISK CONTROL UNIT** SUPERIOR DEVICE HOST I/F 1030 2040 -2030 MAIN CONTROL PART BIT MAP 2020 1350 1300 SAN 1020 DKC ||F SUPERIOR DEVICE 2050 CACHE PART 1320 1050 PHYSICAL DISK 1370 **FIG.4** 1370 PHYSICAL DISK 2020 1040 CACHE PART SUPERIOR DEVICE 72050 1320 1070 STORAGE DEVICE SYSTEM 1010 MAIN CONTROL PART DKC IF 2040 2030 1350 SAN DISK CONTROL UNIT 1300 **BIT MAP** DATA CONSISTENCY HOLDING CONTROL PART 900 SUPERIOR DEVICE HOST IF

FIG.5 100 DATA CONSISTENCY HOLDING TABLE

107		T :		.		_	
)	CACHE DATA STORAGE ADDRESS						
106	STORAGE SERIAL NUMBER	1 1 1					
105	OBJECT SIZE						
104	BLOCK START SIZE SADDRESS						
2 103	TION SUPERIOR DEVICE OBJECT IDENTIFICATION BLOCK SADDRES						
101	RECEPTION TIME	00:00:00	00:01:30	00:01:40		00:03:10	
	TABLE CONTROL NUMBER	1	2	3	`***********	100	-1

/ <u>2030</u> BIT MAP TABLE

										3LE		
0	~	0	0	←	0	0	0	_	0	P TA	6	
4-	4-	_	0	1	0	0	0	Į,	0	MA	0	
0	-	1	0	-	0	0	0	1	0	Y BIT	0	
1	0	-	0	1	0	0	0	1	0	RAR	0	
1	0	1	0	0	0	0	Į	Į	0	MPO	1	
0	0	1	0	0	0	0	1	0	0	200 TEMPORARY BIT MAP TABLE	1	
0	0	1	0	0	0	0	1	0	0	720	1	
0	0	1	0	0	0	0		0	0	4		4
0	0	1	0	0	0	0		P	0			I
1	1	-	0	0	0	0	1		0		3	
							.\				7	

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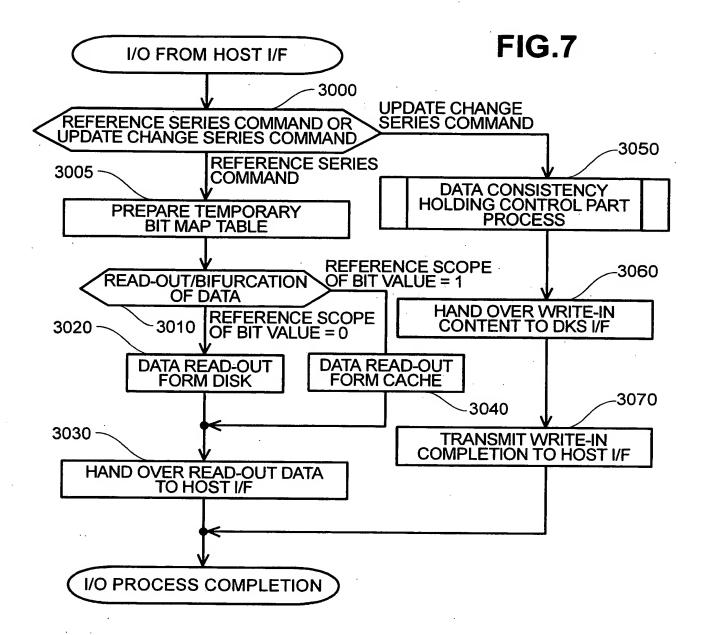
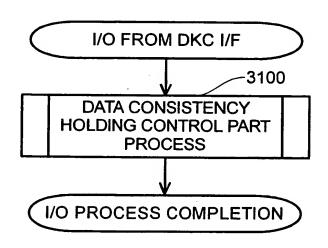
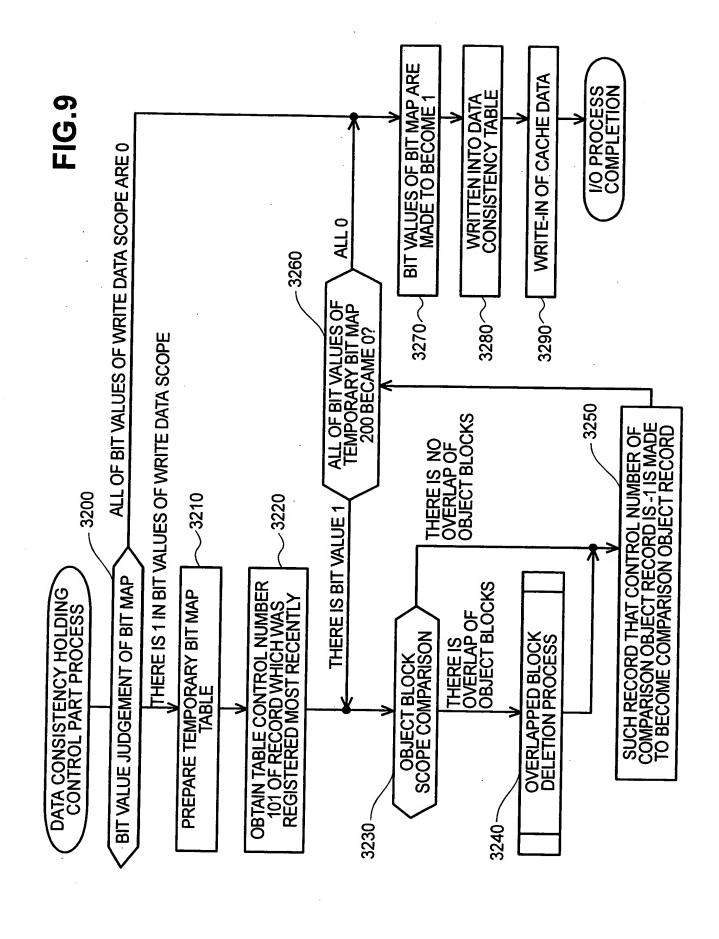


FIG.8





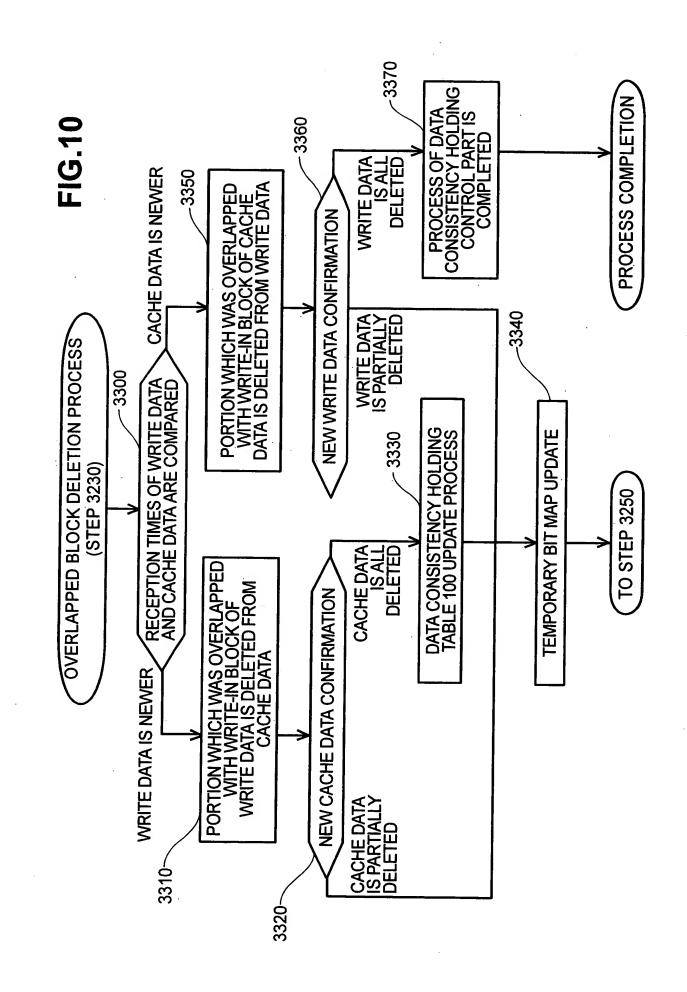
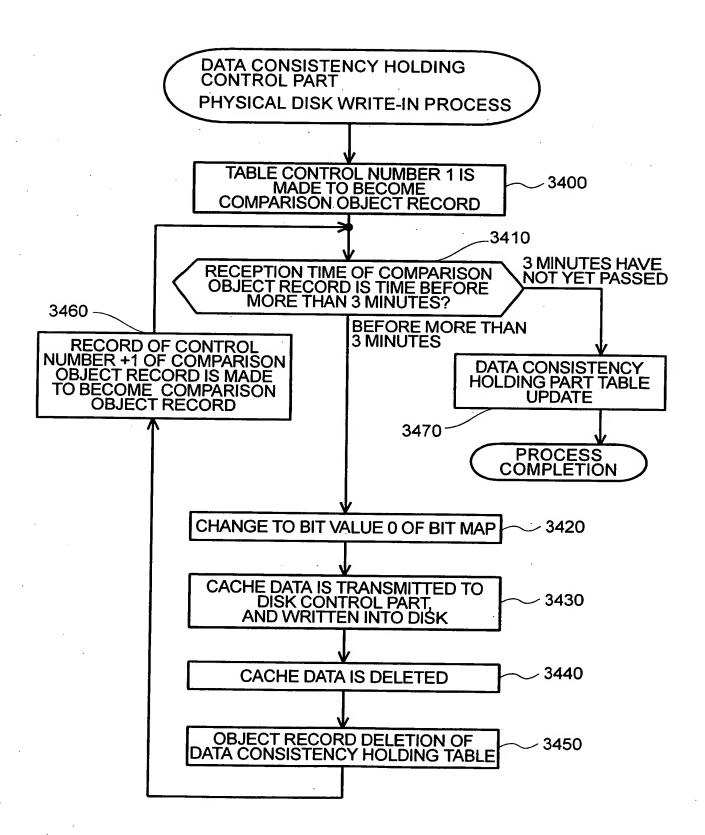


FIG.11



4010 1080 STORAGE DEVICE SYSTEM DATA CONSISTENCY HOLDING CONTROL PART SUPERIOR 1030 HOST I/F DISK CONTROL PART BIT MAP 1350 \4020 MAIN CONTROL PART 4030 1300 SAN EXCLUSIVE CONTROL PART 1020 DKC IF SUPERIOR DEVICE CACHE PART 2050 1320 1050 REMOTE COPY LINE 1060 1370 PHYSICAL DISK PHYSICAL DISK 1370 4000--4000 4030 1040 CACHE PART SUPERIOR DEVICE 2050 1320 EXCLUSIVE CONTROL PART 1010 *1070 STORAGE DEVICE SYSTEM MAIN CONTROL PART DKC IF 1350 DATA CONSISTENCY HOLDING CONTROL PART SAN /1300 4010 DISK CONTROL PART 1000 SUPERIOR DEVICE BIT MAP 4020 HOST I/F

FIG.12

FIG.13

300 BIT MAP VALUE TABLE

BIT VALUE	EXPLANATION
0	DISK IS NOT RESERVED DISK IS IN THE MOST RECENT STATE
1 .	DISK IS NOT RESERVED DATA WHICH IS NOT UPDATED IN DISK EXISTS ON CACHE
2	DISK IS RESERVED IN A CERTAIN SUPERIOR DEVICE, DISK IS IN THE MOST RECENT STATE
3	DISK IS RESERVED IN A CERTAIN SUPERIOR DEVICE, DATA WHICH IS NOT UPDATED IN DISK EXISTS ON CACHE

FIG.14

400 LOCK STATE HOLDING TABLE

401	402	403	404	405
CONTROL NUMBER	LOCK START TIME	SUPERIOR DEVICE IDENTIFICATION NUMBER	LOCK OBJECT START ADDRESS	LOCK OBJECT SIZE
			•	

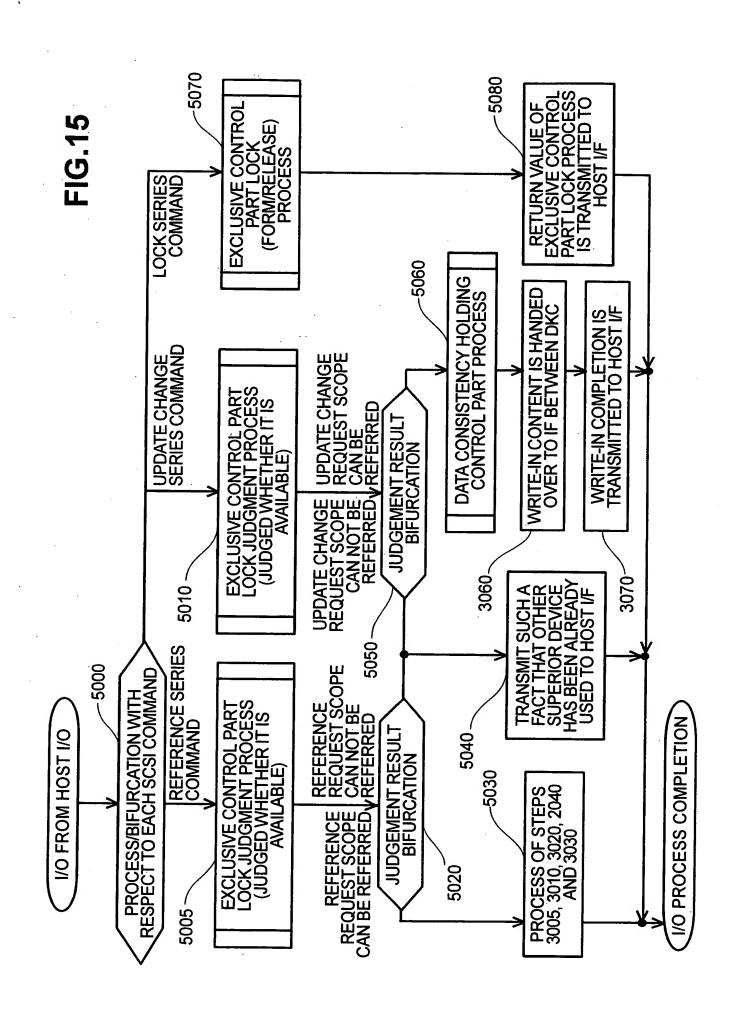


FIG.16

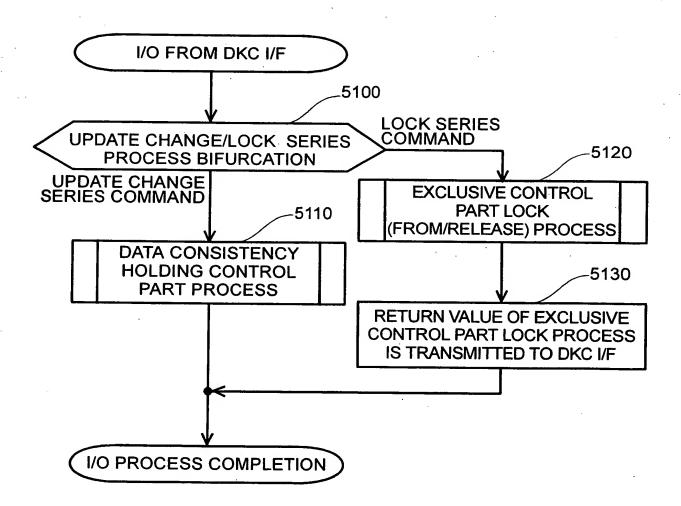
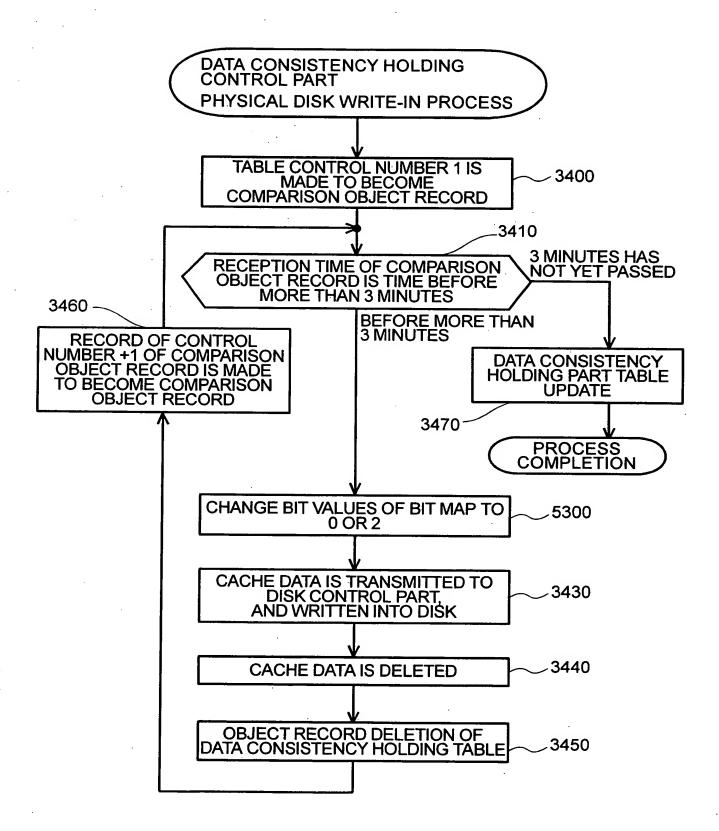
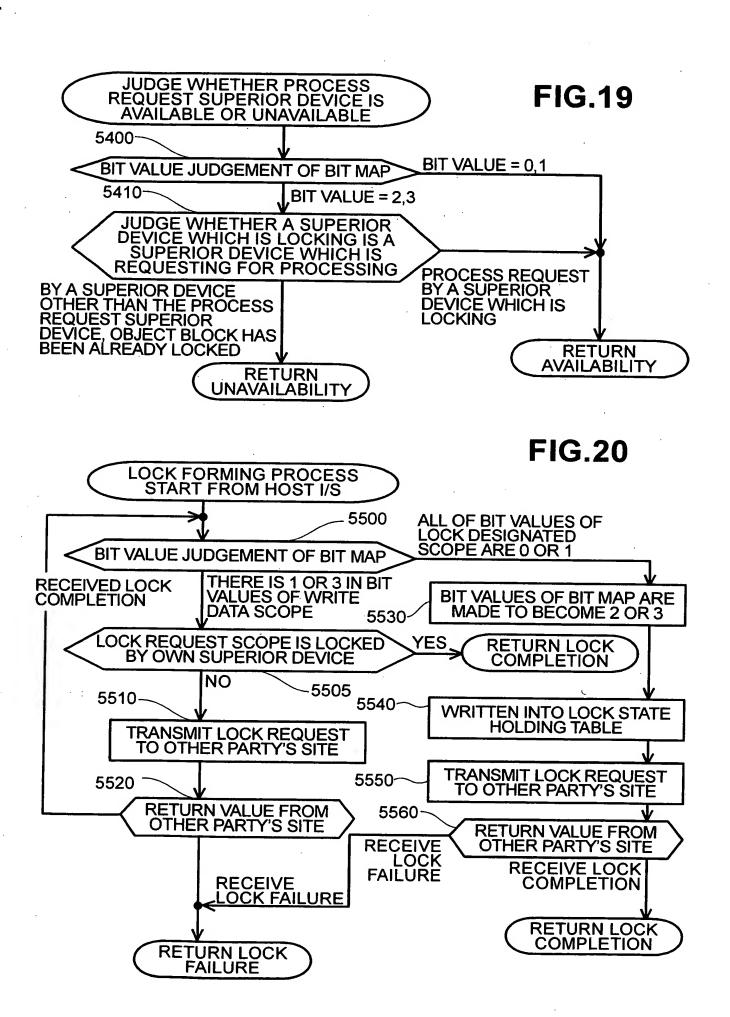


FIG.18





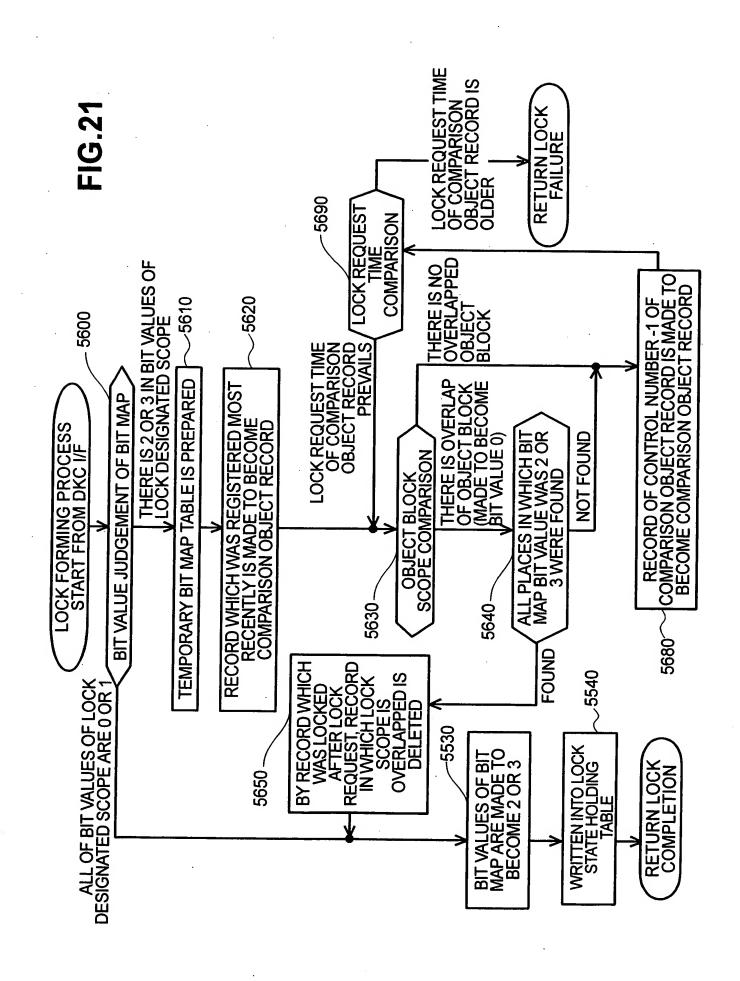
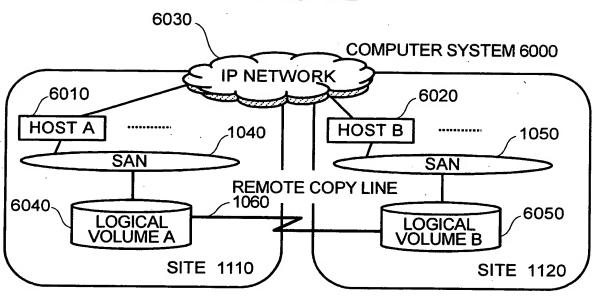


FIG.22



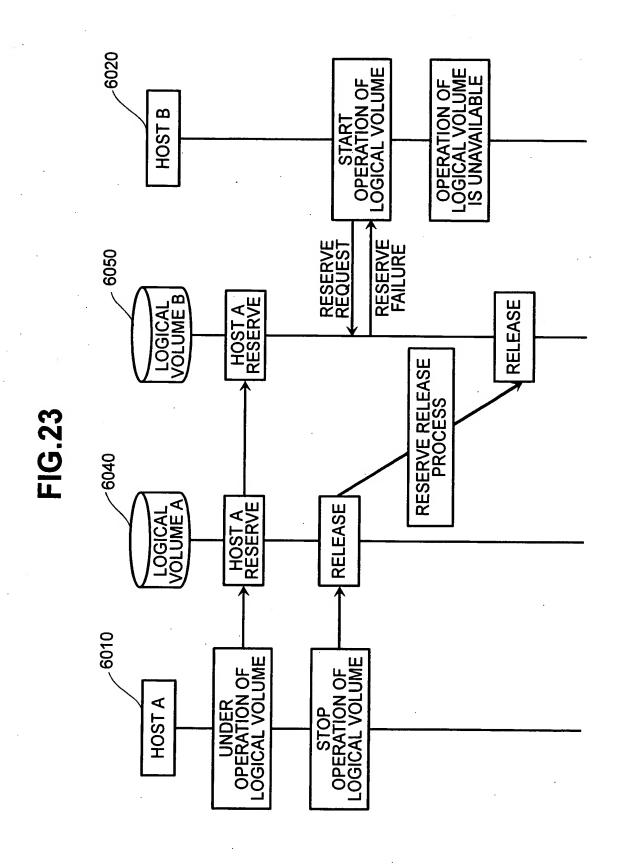


FIG.24

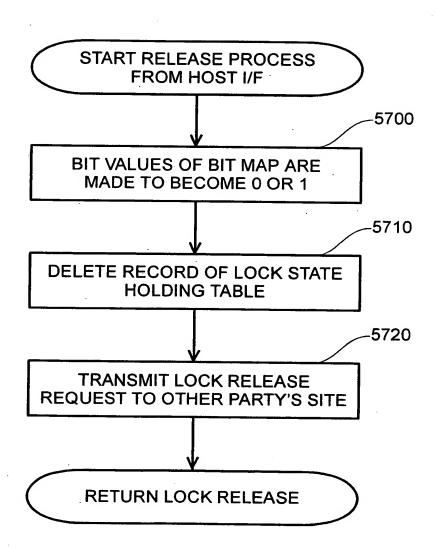


FIG.25

